

REMARKS

In response to the Restriction Requirement dated March 17, 2009, Applicants elect Group II, claims 1-22, drawn to DNA transfer vectors containing SEQ ID NO: 2, with traverse. The grounds for traverse are as follows.

SUMMARY OF THE INVENTION

The invention relates to various constructs encoding the human or human/rat chimeric p185 protein inserted in plasmid vectors and used in immunization experiments aimed at preventing tumor progression. For plasmid construction, fragments of the human p185^{neu} have been replaced with homologous sequences from the rat Her-2/neu cDNA so as to create chimeric plasmids.

The plasmids were evaluated in vaccination experiments in mice inoculated with tumor cells overexpressing human p185^{neu}. Plasmids containing truncated forms of p185^{neu} induced an antitumor reactivity mediated by killer and helper T lymphocytes, while chimeric plasmids induced an antibody response against both human and rat p185^{neu}. Based on these results, the plasmids containing p185^{neu} sequences able to induce a strong immune response of both cellular and humoral type have been selected. These plasmids, an object of the present invention, contain a sequence encoding a p185^{neu} fragment selected from the group consisting of SEQ ID NO: 1-14. (See, page 4, line 20 to page 5, line 12 of the original PCT application).

GROUPS II and X-XIV ARE DRAWN TO VECTORS THAT SHARE A COMMON FEATURE:

The Examiner takes the position that Groups I-XIV do not relate to a single general inventive concept because they lack the same or corresponding special technical feature. Applicants respectfully disagree with this position.

In regard to Groups II and X-XIV, the sequences therein claimed share, as a common feature, the fact that they contain one portion coating for human p185^{neu} oncoprotein, and a second portion coating for rat p185^{neu} oncoprotein. The specification discloses, at page 9, line 20 to page 10, line 18, and in Figure 2, a DNA vector that contains a human/rat chimeric construct. At page 13, line 13 to page 15, line 2, and in Figures 10-14, the specification describes DNA vectors containing human/rat chimeric constructs (SEQ ID NOs: 10-14). The vectors contain a human/rat chimeric p185^{neu} oncoprotein that is not taught or suggested in the prior art.

The human/rat chimeric proteins induce in mice a complete protection against tumours expressing p185^{neu} oncoprotein (see, page 10, lines 13-15). The chimeric proteins allow the organism to break the "self" tolerance to ErbB2, thereby making the ErbB2 antigen a target for active immunization. In particular, the fragments of the rat and human p185^{neu} oncoproteins that make up the claimed sequences (SEQ ID NO: 2, and 10-14) have been purposefully selected to allow a subject organism to overcome the immunological tolerance to human ErbB2

and to provide the correct epitopes for eliciting a highly specific immune-response.

For these reasons, it is respectfully submitted that unity of invention exists at least in Groups II and X-XIV because the corresponding special technical feature of the claims is present throughout the claims and is a contribution over the prior art.

GROUP XV AND XVI SHARE A SPECIAL TECHNICAL FEATURE OF GROUPS II AND X-XIV:

Group XV, claims 23 and 24, drawn to a pharmaceutical preparation containing at least two different vectors from Groups I-XIV, and Group XVI, claim 25, drawn to a method for treatment of a subject by administration of a DNA vector from Groups I-XIV, share the same technical feature of a human/rat chimeric p185^{neu} protein. As set forth in the comments above, the prior art fails to teach such a chimeric protein. Thus, Applicants respectfully submit that unity of invention exists for Groups XV and XVI, as well as Groups II and X-XIV.

GROUPS I AND III-IX DO NOT CONSTITUTE AN UNDUE BURDEN TO SEARCH:

It is respectfully submitted that it would not constitute an undue burden to search the inventions of Groups I, and III-IX together with Groups II and X-XVI in a single application given the above-referenced overlapping and related

subject matter. Therefore, Applicants believe that all of the claims are sufficiently related so as to warrant a search and examination of all the claims in their full scope. Applicants respectfully request such action.

Favorable action on the merits is solicited.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future submissions, to charge any deficiency or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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